WHAT IS CLAIMED IS:

1. A field emission display, comprising:

a first substrate and a second substrate opposing one another with a predetermined gap therebetween, the first substrate and the second substrate being sealed using a sealant wherein a vacuum formed between the first substrate and second substrate forms a vacuum assembly in an area encompassed by the sealant;

an electron emission assembly formed on the first substrate and emitting electrons by generation of electric fields within the electron emission assembly; and

an illumination assembly formed on the second substrate and realizing a display of images by electrons emitted from the electron emission assembly,

wherein the illumination assembly includes (a) a transparent conductive layer formed on a surface of the second substrate, and having an anode input terminal that extends outside the vacuum assembly and to which an anode voltage is applied, (b) a phosphor screen formed on the transparent conductive layer, and (c) a metal layer formed on the phosphor screen within the vacuum assembly, a portion of the metal layer contacting and electrically connecting to the transparent conductive layer.

2. The field emission display of claim 1, wherein the transparent conductive layer and the anode input terminal are integrally formed.

3. The field emission display of claim 2, wherein the transparent conductive layer and the anode input terminal are made of films of indium tin oxide.

4. The field emission display of claim 1, wherein the metal layer is formed over the phosphor screen having an area larger than the phosphor screen such that edges of the metal layer contact the transparent conductive layer.

5. The field emission display of claim 1,

wherein the electron emission assembly includes electron emission sources and electrodes for inducing the emission of electrons from the electron emission sources, and

wherein the electrodes include cathode electrodes and gate electrodes insulated from each other by an insulation layer and formed in respective stripe patterns, the cathode electrodes being substantially perpendicular to the gate electrodes.

6. The field emission display of claim 5, wherein the electron emission sources are made of a carbon-based material selected from a group consisting of carbon nanotubes, graphite, diamond, diamond-like carbon, C_{60} (Fullerene), or a combination of these materials.

7. The field emission display of claim 5, further comprising the gate electrodes being formed on the first substrate, the insulation layer being formed on the first substrate covering the gate electrodes, the cathode electrodes being formed on the insulation layer, and the electron emission sources being formed on the cathode electrodes.

8. The field emission display of claim 5, further comprising the cathode electrodes being formed on the first substrate, the insulation layer being formed on the first substrate covering the cathode electrodes, the gate electrodes

being formed on the insulation layer, the insulation layer and the gate electrodes including openings for exposing the cathode electrodes, and the electron emission sources being formed in the openings on the exposed cathode electrodes.

9. A field emission display, comprising:

a first substrate and a second substrate opposing one another with a predetermined gap therebetween, the first substrate and the second substrate being sealed using a sealant wherein a vacuum formed between the first substrate and second substrate forms a vacuum assembly in an area encompassed by the sealant;

an electron emission assembly formed on the first substrate and emitting electrons by generation of electric fields within the electron emission assembly; and

an illumination assembly formed on the second substrate and realizing a display of images by electrons emitted from the electron emission assembly,

wherein the illumination assembly includes a phosphor screen formed on a surface of the second substrate, a metal layer formed on the phosphor screen within the vacuum assembly, and an anode input terminal formed extending from within the vacuum assembly to outside of the same, in which an end of the anode input terminal within the vacuum assembly contacts the metal layer to be electrically connected to the metal layer.

10. The field emission display of claim 9, wherein the anode input terminal is a thin film made from a material selected from a group consisting of indium tin oxide, Ni, and Cr.

11. The field emission display of claim 9, wherein the metal layer covers entirely the phosphor screen and a portion of the anode input terminal.

12. The field emission display of claim 9,

wherein the electron emission assembly includes electron emission sources and electrodes for inducing emission of electrons from the electron emission sources, and

wherein the electrodes include cathode electrodes and gate electrodes, the cathode electrodes and the gate electrodes beinginsulated from each other by an insulation layer and formed respectively in a stripe pattern, the cathode electrodes being substantially perpendicular to the gate electrodes.

13. The field emission display of claim 12, wherein the electron emission sources are made of a carbon-based material selected from a group consisting of carbon nanotubes, graphite, diamond, diamond-like carbon, C_{60} (Fullerene), or a combination of these materials.

14. The field emission display of claim 12, further comprising the gate electrodes being formed on the first substrate, the insulation layer being formed on the first substrate covering the gate electrodes, the cathode electrodes being formed on the insulation layer, and the electron emission sources being formed on the cathode electrodes.

15. The field emission display of claim 12, further comprising the cathode electrodes being formed on the first substrate, the insulation layer being formed on the first substrate covering the cathode electrodes, the gate electrodes being formed on the insulation layer, the insulation layer and the gate electrodes including openings for exposing the cathode electrodes, and

the electron emission sources being formed in the openings on the exposed cathode electrodes.

16. A flat panel display, comprising:

a faceplate including a faceplate interior side;

a backplate including a backplate interior side in an opposing relationship to the faceplate interior side;

side walls positioned between the faceplate and the backplate to form an enclosed vacuum envelope between the side walls, the backplate interior side and the faceplate interior side;

a phosphor layer positioned on the faceplate interior side;

a metal layer positioned on the phosphor layer, wherein the metal layer is formed within the vacuum envelop.

17. The flat panel display of claim 16, wherein the metal layer has a larger area than the phosphor layer.

18. The flat panel display of claim 16, wherein the metal layer contacts an anode input terminal to which an anode voltage is applied.

19. The flat panel display of claim 16, further comprising a transparent conductive layer formed between the faceplate and the phosphor layer.

20. The flat panel display of claim 19, wherein an anode voltage is applied to the transparent conductive layer.

21. The flat panel display of claim 20, wherein an anode voltage is applied to the transparent conductive layer directly.

22. The flat panel display of claim 20, wherein an anode voltage is applied to the transparent conductive layer through an intermediate layer.

23. An illumination assembly for a field emission display realizing a display of images by electrons emitted from an electron emission assembly within a vacuum assembly, comprising:

a substrate;

a transparent conductive layer formed on a surface of the substrate, and having an anode input terminal to which an anode voltage is applied, the anode input terminal extending outside the vacuum assembly;

a phosphor screen formed on the transparent conductive layer; and

a metal layer formed on the phosphor screen, and having a portion of the metal layer for contacting and electrically connecting to the transparent conductive layer within the vacuum assembly.

24. The illumination assembly of claim 23, wherein the transparent conductive layer and the anode input terminal are integrally formed.

25. The illumination assembly of claim 23, wherein the metal layer is formed over the phosphor screen having an area larger than the phosphor screen such that edges of the metal layer contact the transparent conductive layer.